

What is claimed is:

1. Cylinder head (1) for a multi-cylinder liquid-cooled internal combustion engine, with a cooling chamber configuration (3) adjacent to a fire deck, which is divided by an intermediate deck (4) essentially parallel to the fire deck (2) into a lower cooling chamber (5) next to the fire deck, and an upper cooling chamber (7) adjoining the lower one in the direction of the cylinder axis (6), where lower and upper cooling chamber (5,7) communicate with each other via at least one first transfer opening (9), and where at least one first transfer opening (9) is provided in the area of an opening (20) receiving a preferably centrally disposed fuel injection device (11), and where at least one coolant inlet (13) per cylinder (A,B,C), which is preferably located in the fire deck (2), opens into the lower cooling chamber (5), and at least one coolant outlet (32) departs from the upper cooling chamber (7), and where a lower cooling chamber (5) is associated with each cylinder (A,B,C) and the lower cooling chambers (5) of at least two adjacent cylinders (A,B,C) are essentially separated from each other by a partitioning wall (12) and the coolant flow in the lower cooling chamber (5) is essentially transverse to the cylinder head (1), and where the upper cooling chamber (7) extends over at least two cylinders (A,B,C), wherein the first transfer opening (9) and the opening (20) receiving the fuel injection device are spatially separated by a defined minimum distance ( $a$ ) between the receiving opening (20) and the transfer opening (9), and wherein at least one first transfer opening (9) is disposed in the area of at least one web (30,31) between intake port (16) and receiving opening (20) and/or exhaust port (17) and receiving opening (20).
2. Cylinder head (1) according to claim 1, wherein at least two first transfer openings (9) are disposed diametrically to the opening (20) receiving the fuel injector.
3. Cylinder head (1) according to claim 1 or 2, wherein a second transfer opening (22) is additionally provided in the area of a sidewall (1b) of the cylinder head (1).

4. Cylinder head (1) according to any of claims 1 to 3, wherein only part of the coolant volume passing between lower and upper cooling chamber (5,7), i.e. preferably 20 to 40 percent of the entire coolant flow through said chambers (5,7), is delivered through the at least one first transfer opening (9) in the area of the opening (20) receiving the fuel injector.
5. Cylinder head (1) according to any of claims 1 to 4, wherein the first and/or second transfer opening (9,22) is cast or drilled.